**Additional Practice Problems - Unit 2 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\*\*\* Complete the following questions on a piece of notebook paper. You will need to show the completed problems to me before I allow you to retake the quiz!**

**Quiz #1 – Atomic Structure**

1. List the 5 principle’s of Dalton’s Atomic Theory. Underline the 2 parts that are incorrect.
2. How did Thomson prove the charge of the particles that made up the ray? What are those particles called?
3. Who discovered the neutron? Why was it the last subatomic particle to be discovered?
4. What is most of an atom made up of? Where does most of the mass of an atom come from?
5. Rutherford’s Gold Foil Experiment:
   1. What was the charge of the alpha particles?
   2. What did most of the particles do? What did this prove?
   3. What did a few of the particles do? What did this prove?

**Quiz #2 – Subatomic Particles**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Symbol  Notation | #p | #e | #n | Mass # | Atomic # | Atomic Mass | Charge of Nucleus |
| Nitrogen - 13 |  |  |  |  |  |  |  |  |
| Oxygen - 16 |  |  |  |  |  |  |  |  |

1. Fill in the table below:
2. Atoms of the same element with different masses are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Why do they have different masses?
3. A neutral atom has the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. The atomic number is determined by the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Quiz #3 – Summary of Chapter 4**

1. Which particle determines the element’s identity?
2. How is average atomic mass different from mass number?
3. How is atomic mass calculated?
4. Name the scientist that is famous for each of the following:
   1. Gold Foil Experiment
   2. Neutron discovery
   3. Atomic Theory
   4. Cathode Ray Tube Experiment
   5. Proved existence of nucleus
   6. First to theorize existence of an atom
   7. Proved existence of electron
5. Fill in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element | Symbol | Atomic Number | Electrons | Protons | Neutrons | Mass Number |
| Carbon-12 |  |  |  |  |  |  |

**Quiz #4 – Electron Configurations**

1. Arsenic
   1. Electron Configuration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Noble Gas Configuration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Orbital Diagram \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Electron Dot Diagram \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Fluorine
   1. Electron Configuration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Noble Gas Configuration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Orbital Diagram \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Electron Dot Diagram \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_